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ABSTRACT

A project was conducted to determine whether a vocational student's version of the Affective Work Competencies Inventory could be prepared to measure the psychological constructs of values, habits, and attitudes. A revised inventory was developed and administered to 194 students in eight selected programs at Toledo vocational high schools (data processing, food service, retailing, animal care, horticulture, stenography, auto mechanics, and machinists). In addition, students' instructors provided evaluative data about each student. Student scores on the revised instrument were compared to teacher evaluations. Next, students were provided with feedback in the form of computer printouts on the levels of affective characteristics that both they and successful workers possessed. Finally, an evaluation instrument was administered to respondents to obtain information on the perceived usefulness and effectiveness of the instrument and feedback system. Data analysis revealed significant correlations for eight of the ten affective competency clusters investigated, and students believed that the inventory and feedback provided were helpful and informative. Recommendations called for research on the inventory as a placement tool and development of accompanying instructional materials. (Related studies on a work competencies guidance/instruction system: affective work competencies: and necessary work values, habits, and attitudes are available separately through ERIC--see note.) (MN)

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MODIFICATION OF THE AFFECTIVE WORK COMPETENCIES INVENTORY FOR USE WITH VOCATIONAL STUDENTS

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PREFACE

A primary interest of vocational educators has been the development of their student's psycho-motor skills in preparation for successful job performance. Much less emphasis has been placed on the acquisition of desirable work habits, values and attitudes. However, with advancing technology, there has been a shift from production orientation to service orientation in the world of work. Many workers are finding themselves in positions where appropriate habits and attitudes are important to job success. Wilson (1973) identified that most workers lose their jobs or fail to progress on their job because of their improper attitudes or habits rather than insufficient job skills.

Preliminary investigations have been conducted to determine the specific work habits, values and attitudes (Affective Work Competencies) that are considered important by industry and education (Kazannas and Beach, 1978). This research, funded by the Missouri State Department of Elementary and Secondary Education through the University of Missouri, identified, defined and investigated these competencies and then clustered them according to their common elements (See Tables I and II). An instrument to measure the Affective Work Competencies workers possessed was also prepared (Affective Work Competencies Inventory). A copy of the instrument is included as Appendix A.

Attempts to measure these competencies in vocational students have been limited; thus students and counselors have been without a measure of work attitudes that would indicate areas of desired improvement. In the Review of Research on Student Selection and the Prediction of Success in Occupational Education, Stock and Pratzner (1969) concluded that traditional predictors of success, including grades, interest inventories, and aptitude tests were inadequate. They suggested that more work be done in the area of identifying, measuring, and developing the non-intellectual variables of vocational behavior.

During the past decade, much attention has been given to career development and the world of work in education. Bailey and Stadt (1973) suggested that preparation for the world of work must become an integral component of the curriculum if we are to realize the potential of the total learning process. Accordingly, attention should be given to the identification and development of vocational students' affective competencies.

STATEMENT OF THE PROBLEM

The shift in occupational orientation, resulting from technological developments, is reflected in vocational high school training programs. At this level, as well as at other educational levels, programs need to be prepared to encompass the affective competencies related to work. Basic to this need for developmental programs is a need for an instrument that can be used to measure the degree of affective competency that each vocational student possesses. The information obtained with this instrument could help students identify their affective achievements or deficiencies and direct attention to the specific work attitudes, values, or habits that they need to improve.

To meet this need, the Affective Work Competencies Inventory that presently measures the work values, habits and attitudes possessed by workers was modified for use by vocational students.

TABLE I

AFFECTIVE WORK COMPETENCIES (AWC)
LISTED BY INDUSTRY AND EDUCATORS*

1. Punctual
2. Cooperative
3. Capable
4. Follows directions
5. Responsible
6. Emotionally stable
7. Initiative
8. Honest
9. Dependable
10. Helpful
11. Loyal
12. Adaptable
13. Efficient
14. Ambitious
15. Quality of work
16. Dedicated
17. Reliable
18. Accurate
19. Persevering
20. Judgement
21. Concentrating
22. Careful
23. Cheerful
24. Enthusiastic
25. Independent
26. Quality of work
27. Intelligent
28. Personal appearance
29. Alert
30. Devoted
31. Recognition
32. Leadership potential
33. Courteous
34. Pleasant
35. Responsive
36. Personality
37. Endurance
38. Tolerance
39. Shyness
40. Tender-mindedness
41. Overall job performance
42. Healthy
43. Creative
44. Considerate
45. Speedy
46. Influence
47. Orderly
48. Patient
49. Poise
50. Interested
51. Curious
52. Forceful
53. Active
54. Aware
55. Resourceful
56. Appreciative
57. Perceptive
58. Achievement
59. Compensation
60. Security
61. Variety
62. Working conditions
63. Friendly

*AWC 1 through 31 were listed by both industry and educators (common)
AWC 32 through 41 were listed only by industry and
AWC 42 through 63 were listed only by educators

TABLE II

CLUSTERED AFFECTIVE WORK COMPETENCIES

1. Ambitious
2. Cooperative/Helpful
3. Adaptable/Resourceful
4. Considerate/Courteous
5. Independent/Initiating
6. Accurate/Quality of Work
7. Careful/Alert/Perceptive
8. Pleasant/Friendly/Cheerful
9. Responsive/Follows Directions
10. Emotionally Stable/Judgmental/Poised
11. Persevering/Patient/Enduring/Tolerant
12. Neat/Orderly/Personal Appearance/Manner
13. Dependable/Punctual/Reliable/Responsible
14. Efficient/Quality of Work/Achieving/Speedy
15. Dedicated/Devoted/Honest/Loyal/Conscientious

PROCEDURES

An overall goal of the investigation was to determine whether or not a student's version of the Affective Work Competencies Inventory could be prepared to measure the psychological constructs of values, habits and attitudes.

In order to obtain this goal, requisite objectives were:

1. Modify the Affective Work Competencies Inventory for use with vocational students.

2. Administer the revised instrument to students enrolled in selected high school vocational programs.

3. Develop and administer to teachers, an individual student rating form as a criterion indicator for the modified inventory.

4. Develop and administer an instrument for the students to indicate their perceived usefulness of the inventory and feedback provided.

5. Analyze and evaluate the data collected and determine the effectiveness of the modified instrument in measuring the constructs of values, habits and attitudes.

Research Design

A single group experimental design was used in this study as identified procedures were completed. The first phase related to the content validity of the revised inventory. This was determined through item analysis, by a panel of experts including reading specialists, other professional educators and industry representatives.

The revised instrument was administered to the population sample, comprised of 194 students in eight selected programs at Toledo Vocational High Schools. These classes were representative of the major facets of Ohio's vocational program. The Director of Vocational Education for Toledo, in conjunction with program supervisors and other individuals involved with the research, identified the following classes: Data Processing, Food Service, Retailing, Animal Care, Horticulture, Stenography, Auto mechanics and Machinists. In addition, the students' instructors were requested to provide evaluative data about each student.

In an effort to compare the student's scores on the revised instrument with teacher evaluations, a teacher rating form was prepared. This form included sample statements from the revised inventory. One of these forms was completed for each student by his/her respective teacher, and the results were correlated with each of the respondent's scores on the revised inventory. It was hypothesized that a significant correlation would exist between this data, thus constituting the construct validity of the revised inventory.

After completing the inventory, students were provided with feedback in the form of a computer printout that indicated the levels of affective characteristics that they possessed, as well as the levels possessed by successful workers.

To examine a final research question, an evaluation instrument was prepared and administered to the respondents following the dissemination of the feedback information. Results of these evaluations provided information indicating the perceived usefulness and effectiveness of the instrument and feedback system implemented.

FINDINGS

The research procedures outlined in the preceeding portions were completed and the following data were collected and analyzed. The procedures identified in this portion attempted to answer the research questions.

Analysis of Data

The three specific research questions investigated were:

1. Is the content of the revised instrument the same as that of the Affective Work Competencies Inventory?

2. Is the student's perception of his/her own affective behavior congruent with the teacher's?

3. Do the students believe the revised and instrument and feedback system will provide information beneficial to their career development?

Research Question 1

The first investigative concern was whether or not the modified version of the AWCI contained the same content at a level appropriate for vocational students. By reviewing and adjusting instrument items with a panel of experts, including educators and industry representatives, it was determined that the items contained in the revised instrument were congruent with the AWCI items, as well as representative of an appropriate experience and reading level.

Research Question 2

The second question, regarding construct validity of the student version of the AWCI, was to be determined by analyzing the correlation between the scores on the revised instrument and the teacher ratings of students' work habits and attitudes.

Table Number III
Correlation Coefficients Between Revised-AWCI Scores and Teacher Ratings
(N = 194)

Revised-AWCI Clusters		Correlation Coefficients
1.	Ambitious	.330*
2.	Cooperative/Helpful	.200*
3.	Adaptable/Resourceful	.191*
4.	Independent/Initiating	.363*
6.	Pleasant/Friendly/Cheerful	.095
7.	Responsive/Follows Directions	.158*
8.	Careful/Alert/Perceptive	.084
12.	Neat/Orderly/Personal Appearance/Manner	.177*
13.	Dependable/Punctional/Reliable/Responsible	.237*
15.	Dedicated/Devoted/Honest/Loyal/Conscientious	.255*

* Significant at .01 level ($p \leq .01$)

As indicated in Table III, substantial correlations exist between the respondents' inventory scores and a teacher evaluation of the respondent in eight of the ten clusters investigated. These correlations were significant at the .01 level.

Research Question 3

The final research question was concerned with the preceived worth of the instrument and feedback system as identified by the students. A rating form was used to determine the students' reactions to the inventory and feedback provided. This instrument, which included a five-point Likert scale, with "5" representing strong agreement, and "1" strong disagreement, was administered to the students. Results of the evaluation indicate that student reactions were positive concerning the usefulness and effectiveness of the inventory and feedback. Several students indicated that the printouts provided them with information about their attitudes that they had not previously given much thought. Others inquired about methods for improving or adjusting their work attitudes.

SUMMARY AND DISCUSSION

Summary

An analysis of the data indicated the significant correlations existed for eight of the ten affective competencies clusters investigated. Several factors could help explain the low correlations identified for the other clusters. In the development of the teacher rating form, sample statements from the revised inventory were used as criterion indicators. It was necessary to develop a condensed version of the instrument for teacher ratings, since every teacher completed one of these forms for all of their students. As a result, statements chosen for cluster 6 and 8 may not have been totally representative, causing low correlations to exist.

For student reactions concerning the effectiveness and usefulness of the inventory, descriptive information was gathered. These data indicated that students believed the inventory and feedback provided was helpful and informative.

Conclusions

Presuming that the sample population represents the target population, and that the findings are valid and reliable, the following conclusion may be drawn:

The Student Version of the Affective Work Competencies Inventory provides a reasonable measure for attainment of specific competencies related to work habits, values and attitudes. Also, students perceived that the information regarding the affective characteristics they possess is useful for identifying areas that need further development. It provides supplemental information helpful in their career development process. Identification and internalization of present attitudes are necessary if behavior is to be adjusted.

Implication For Further Research

Suggestions for further research pertaining to this study include:

1. Ascertain the effectiveness of the revised AWCI as a predictor of success in specific occupations.

2. Investigate the feasibility and effectiveness of the revised instrument as a

placement tool for use by guidance personnel in vocational schools who are constantly faced with determining appropriate placements for students.

3. Develop instructional materials to help students acquire competencies, as indicated by results on the revised AWCI. Learning modules relating to the 15 clusters could be of benefit to both vocational and non-vocational students.

During this study, the revised version of the Affective Work Competencies Inventory was proven to be a valid instrument for measuring constructs of students habits, values and attitudes that are related to work. Full implications for this inventory, in the areas of career development and decision making can only be realized through further research involving practical applications in the school.

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APPENDIX A

AFFECTIVE WORK COMPETENCIES INVENTORY

by H. C. Kazanas and D. P. Beach

The purpose of this inventory is to obtain information about the behavior and characteristics of working individuals. Your responses are strictly confidential (your name is *not* required on this inventory). please answer as truthfully and completely as possible each item in the inventory.

Directions: Circle the number that most nearly represents your work behavior. There are five choices that may be made for each statement:

1. Never 2. Seldom 3. Sometimes 4. Usually 5. Always

THERE ARE NO RIGHT OR WRONG ANSWERS. There is no time limit, but you should work as rapidly as possible. Please respond to every item in the inventory.

WHILE I'M AT WORK, I:	NEVER				ALWAYS
1. Acquire new skills in order to advance on the job.	1	2	3	4	5
2. Help group members work together.	1	2	3	4	5
3. Make adjustments to avoid mistakes.	1	2	3	4	5
4. Make decisions without help.	1	2	3	4	5
5. Check my work for accuracy.	1	2	3	4	5
6. Greet others.	1	2	3	4	5
7. Follow step-by-step procedures as required.	1	2	3	4	5
8. Follow safety rules.	1	2	3	4	5
9. Leave workplace and equipment in good condition for others.	1	2	3	4	5
10. Control my temper.	1	2	3	4	5
11. Stay with boring tasks until completion.	1	2	3	4	5
12. Arrange equipment and materials.	1	2	3	4	5
13. Complete my work on time.	1	2	3	4	5
14. Systematically plan work activities.	1	2	3	4	5
15. Accept work assignments.	1	2	3	4	5
16. Push my work on to other workers.	1	2	3	4	5
17. Help others when there is a need.	1	2	3	4	5
18. Adapt to new circumstances.	1	2	3	4	5
19. Am reminded by others to begin work.	1	2	3	4	5
20. Recheck work after changes, corrections or additions.	1	2	3	4	5
21. Complain about my job.	1	2	3	4	5
22. Deviate from instructions.	1	2	3	4	5
23. Am inattentive on the job.	1	2	3	4	5
24. Interrupt others.	1	2	3	4	5
25. Face problems objectively.	1	2	3	4	5
26. Am impatient with co-workers who work slower than me.	1	2	3	4	5
27. Follow a daily schedule.	1	2	3	4	5
28. Carry out instructions.	1	2	3	4	5
29. Increase my rate of work to meet job requirements.	1	2	3	4	5
30. Avoid work.	1	2	3	4	5
31. Set personal work/job goals.	1	2	3	4	5
32. Participate in group activities.	1	2	3	4	5

WHILE I'M AT WORK, I:	NEVER				ALWAYS
33. Regulate activities in terms of available time.	1	2	3	4	5
34. Make decisions without help.	1	2	3	4	5
35. Try to eliminate errors.	1	2	3	4	5
36. Complain.	1	2	3	4	5
37. Follow regulations.	1	2	3	4	5
38. Ignore an unsafe workplace.	1	2	3	4	5
39. Disturb others who try to work.	1	2	3	4	5
40. Maintain an even temperament.	1	2	3	4	5
41. Complete work I start.	1	2	3	4	5
42. Plan my activities for the day.	1	2	3	4	5
43. Begin work on time.	1	2	3	4	5
44. Make suggestions about how to save time.	1	2	3	4	5
45. Lose interest in my work.	1	2	3	4	5
46. Set goals for self-improvement.	1	2	3	4	5
47. Involve new members into the workplace.	1	2	3	4	5
48. Adjust to various work situations.	1	2	3	4	5
49. Work without close supervision.	1	2	3	4	5
50. Maintain adequate and precise records.	1	2	3	4	5
51. Speak favorably about others.	1	2	3	4	5
52. Follow directions.	1	2	3	4	5
53. Utilize personal protective equipment/clothing.	1	2	3	4	5
54. Damage the property of others.	1	2	3	4	5
55. Get angry.	1	2	3	4	5
56. Make corrections without complaining.	1	2	3	4	5
57. Keep my work area clean.	1	2	3	4	5
58. Say that I will do something and then do not do it.	1	2	3	4	5
59. Make suggestions about how to save effort.	1	2	3	4	5
60. Gaze out the window or at the clock.	1	2	3	4	5
61. Accept new training.	1	2	3	4	5
62. Work well as a group member.	1	2	3	4	5
63. Adjust to new workers and supervisors.	1	2	3	4	5
64. Take steps to complete work without constant supervision.	1	2	3	4	5

Please continue on the back page

Grade or Occupation _____ Date _____

School or Firm _____ Address _____

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APPENDIX B
Portion of the Revised-AWCI

DIRECTIONS: Circle the number that most clearly represents how you work in the lab.

SAMPLE: **WHILE I'M WORKING IN THE LAB, I:** Follow directions. 1 2 3 4 5 6 7

If you never follow directions, you would circle 1. If you follow directions only half the time, you would circle 4.

THERE ARE NO RIGHT OR WRONG ANSWERS. Please answer the questions as honestly as you can. As you read each sentence, think about how you act when you're in the lab, and circle the number that best fits.

WHILE I'M WORKING IN THE LAB, I:	**NEVER**						**ALWAYS**
1. Develop new skills to do better on the job.	1	2	3	4	5	6	7
2. Help others work together.	1	2	3	4	5	6	7
3. Make changes so I don't make mistakes.	1	2	3	4	5	6	7
4. Make decisions without help.	1	2	3	4	5	6	7
5. Check my work to be sure it's right.	1	2	3	4	5	6	7
6. Work cheerfully.	1	2	3	4	5	6	7
7. Follow all directions step by step.	1	2	3	4	5	6	7
8. Follow safety rules.	1	2	3	4	5	6	7
9. Take care of equipment & leave workplace neat.	1	2	3	4	5	6	7
10. Control my temper.	1	2	3	4	5	6	7
11. Finish my work even if it's boring.	1	2	3	4	5	6	7
12. Keep equipment & materials in order.	1	2	3	4	5	6	7
13. Finish my work on time.	1	2	3	4	5	6	7
14. Plan my work for the day.	1	2	3	4	5	6	7
15. Do what I am assigned.	1	2	3	4	5	6	7
16. Leave my work for others to do.	1	2	3	4	5	6	7
17. Help others when they need it.	1	2	3	4	5	6	7
18. Adjust to changes.	1	2	3	4	5	6	7
19. Have to be reminded to begin work.	1	2	3	4	5	6	7
20. Check my work after corrections.	1	2	3	4	5	6	7
21. Complain about my job.	1	2	3	4	5	6	7
22. Do not follow directions.	1	2	3	4	5	6	7
23. Do not pay attention to what I'm doing.	1	2	3	4	5	6	7
24. Interrupt others.	1	2	3	4	5	6	7
25. Look at all sides of a problem.	1	2	3	4	5	6	7